



APPLICATION REPORT

Water & Wastewater

Maintenance and regeneration of water wells

- Accurate flow measurement for water well testing and inspection
- Battery powered measurement solution for remote locations
- Water meter with high turndown ratio for varying flow rates



1. Background

Q-FLOW International, founded in 2002, is an independent well regeneration and maintenance company. It builds new wells, performs camera inspections and maintains existing water wells and water treatment installations. The maintenance of wells involves for example the exchange of pumps and pipes, the cleaning of filters and the regeneration of complete wells. Q-FLOW has several teams on the road. Each team is equipped with a crane of 18 m / 59 ft height as well as a maintenance skid for the treatment of wells up to 300 m / 985 ft deep.

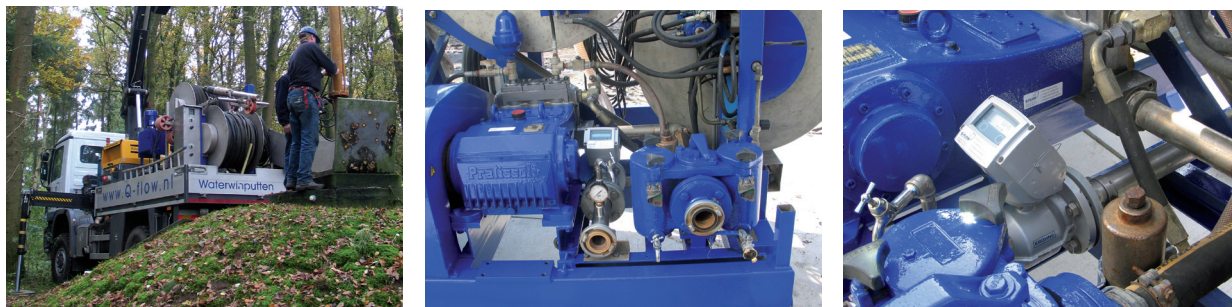
2. Measurement requirements

At many locations where Q-FLOW operates, like meadows and forests, mains power is often not available. Any savings on the use of power and aggregates is preferred. Q-FLOW requires accurate flow measurements for well maintenance activities and for building new wells. To check the result of a well treatment, the calibrated volume of water abstracted from a well is an important measure for how much the water level is reduced. Local regulations are in place to ensure that the water balance is maintained at its target level. As a result, the amount of water to be abstracted is often limited. In addition, Dutch regulations on water discharge demand that in case of well maintenance, such as cleaning under high pressure and chemical regeneration, the volume of water that is pumped and discharged during the treatment is to be measured accurately.



Maintenance skid with crane

KROHNE



Maintenance skid with WATERFLUX 3070 for well maintenance

3. KROHNE solution

Q-FLOW decided to equip its maintenance skids with the WATERFLUX 3070 water meter. The battery powered electromagnetic flowmeter is designed for water abstraction applications. Its measuring tube with a rectangular and reduced cross-section enables a stable measurement even at low flow rates. Due to its optimized flow profile, the WATERFLUX 3070 can be installed in the confined space of a maintenance skid without straight inlet or outlet runs. At locations, where the piping cannot be removed or where there is no space to install a flowmeter, KROHNE's clamp-on ultrasonic flowmeter OPTISONIC 6300 P is used.

4. Customer benefits

The customer benefits from a water meter that can be used without mains power supply. This makes it the perfect choice for maintenance skids that are used at many different locations. Unlike mechanical water meters, the WATERFLUX 3070 is maintenance-free and offers a much larger turn down ratio (1000:1). This turned out to be a great advantage to the customer as the measured flow rates of a well under test can vary from high to very low. It is another benefit that large pressure drops during testing are also no longer an issue with the WATERFLUX 3070.

5. Products used

WATERFLUX 3070

- Electromagnetic flowmeter for all potable water applications
- Battery- or mains powered, with battery backup option (incl. Modbus)
- Bi-directional flow measurement over a wide dynamic range
- Unique rectangular sensor design for good low flow performance
- Up to DN600 / 24", no inlet/outlet runs needed

OPTISONIC 6300 P

- Ultrasonic clamp-on flowmeter for temporary flow measurement of liquids
- Portable, battery-powered meter for use at any location
- For pipes DN15...1500 / ½...60"



Contact

Would you like further information about these or other applications?
Do you require technical advice for your application?
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